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10/078,488	02/21/2002	Nobuyuki Nemoto	826.1791	4891

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EXAMINER

BELLO, AGUSTIN

ART UNIT	PAPER NUMBER
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2613

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/078,488  
Filing Date: February 21, 2002  
Appellant(s): NEMOTO ET AL.

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J. Randall Beckers  
For Appellant

**EXAMINER'S ANSWER**

**MAILED**  
JUL 18 2006  
**GROUP 2600**

This is in response to the appeal brief filed 4/25/06 appealing from the Office action mailed 9/20/05.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

**WITHDRAWN REJECTIONS**

The following grounds of rejection are not presented for review on appeal because the examiner has withdrawn them. The rejection of claims 4, 5, 9, and 10 as obvious under 35 USC 103 over Ford in view of Minamimoto is being withdrawn by the examiner since the Appellant has made it clear in the brief that Minamimoto is disqualified as prior art under 35 USC 103 (c) (1). Therefore, the claims 4, 5, 9, and 10 are objected to as being dependent upon rejected base claims.

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Claim 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 5, 9, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,392,769	FORD	5-2002
6,839,518	MINAMIMOTO	1-2005

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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3. Claim 4 is generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 3 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Ford (U.S. Patent No. 6,392,769).

Regarding claims 3 and 8, Ford teaches a plurality of variable attenuators (reference numeral 402 in Figure 4) for adjusting optical power levels of optical signal components of individual wavelengths demultiplexed from the WDM optical signal; a plurality of output optical level detecting units (reference numeral 405 in Figure 4) detecting the output optical levels of the plurality of variable attenuators; and a feed-back circuit (reference numeral 409 in Figure 4) for controlling adjustments of the optical attenuation amounts of the plurality of variable attenuators, wherein optical signal components of individual wavelengths whose power levels have been adjusted by the plurality of variable attenuators are multiplexed (e.g. via reference numeral 404 in Figure 4) and thereby a WDM optical signal is generated and transmitted. Ford further teaches that a target value is sent to the feed-back circuit (reference numeral 409 in Figure 4) the target value representing the optical power level of each of the optical signal

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components of individual wavelengths (e.g. the power level measurement performed by the detectors reference numeral 405 in Figure 4). Ford also teaches that when an optical signal component of a wavelength of the WDM optical signal is disconnected (e.g. dropped according to the “add/drop reconfiguration” described in column 4 lines 20-31), the feed-back circuit sets the attenuation amount of a variable attenuator assigned to the optical signal component to a predetermined value (column 2 lines 29-35).

#### **(10) Response to Argument**

The Appellant presents arguments against the examiner’s rejection of claim 4 as being indefinite under 35 USC 112, 2<sup>nd</sup> paragraph. The Appellant argues that the rejection is without basis. However, the examiner specifically notes in the final office action that the claim appears to be a literal translation from a foreign document based on the numerous grammatical and idiomatic errors apparent upon reading the claim.

At the time the rejection was made the examiner felt that the claim language did not clearly convey the idea for which the Appellant sought patent protection. As such, the examiner estimated that the Appellant intended to claim setting a variable attenuator to a predetermined value when the signal is dropped, wherein the predetermined value is low enough so that upon addition of a new signal to the system, the abrupt input does not destroy a WDM transmitting apparatus downstream from the variable attenuator.

However, even then the examiner was not fully able to understand where the optical level detecting unit fit into the picture or how it detected the output optical level of the variable attenuator corresponding to the abrupt optical input. The question that stuck in the examiner’s mind was, “Isn’t the variable attenuator supposed to be set so as to prevent or attenuate the

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abrupt optical signal to a point where it is not longer able to cause damage, and if so how does the optical level detecting unit then detect the abrupt optical input?” Regardless, after reading the Appellant’s brief, it appears that the examiner has completely missed the mark since the Appellant clarifies what the claim language of claim 4 was intended to convey (Brief page 4 lines 4-7).

What the examiner hoped in making the 112 rejection was that the Appellant would recognize that the claim language was confusing at best and that the Appellant would amend the claim language to more clearly reflect the Appellant’s invention. In fact the examiner hoped that that the applicant would clarify the claim language as was done in the Brief. However, this did not occur and the examiner was forced to maintain the 112 rejection of the office action. Even so, when one reads claim 4 it is hard to conceive that one skilled in the art would have determined that the Appellant sought patent protection for what is much more clearly stated in the Appeal Brief. In fact, the examiner still finds it hard to reconcile what is written in claim 4 and what the Appellant explains in the Appeal Brief claim 4 is intended to convey. Given the general confusion as to what exactly the Appellant intends to claim, the examiner contends that the language of claim 4 is properly rejected under 35 USC 112, 2<sup>nd</sup> paragraph.

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Turning now to Appellant’s arguments against the examiner’s rejection of the claims 3 and 8 as being anticipated by Ford, the examiner initially notes that the Appellant concedes that the Ford, as noted by the examiner in the office action, teaches compensating for add/drop impairments by adjusting a variable attenuator to either a predetermined level or an existing level when a signal is dropped or disconnected (Brief Page 6 last paragraph). However, contrary to

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the Appellant's assertion that Ford simply teaches adjusting a signal level to a predetermined value and does not necessarily teach setting the attenuation amount of a variable attenuator to which the signal is input to a predetermined value, Ford specifically teaches adjusting an attenuation amount of a variable attenuator in that Ford, as noted by Appellant, specifically discloses:

*"The adjustable optical transmission unit is (1) responsive to the enable signal for adjusting the output signal level to a predetermined level..."*

To clarify, Ford discloses that the adjustable optical transmission unit referred to throughout the specification comprises an adjustable attenuator (column 2 lines 50-52). Furthermore, given Ford's disclosure of a variable attenuator as the adjustable optical transmission unit, Ford's disclosure of using the adjustable optical transmission unit for "adjusting the output signal level" is the same as Appellant's "adjusting an attenuation amount of a variable attenuator" in that the adjustable optical transmission unit of Ford, e.g., a variable attenuator, is responsible for adjusting the output signal level, and does so by adjusting the attenuation amount of the variable attenuator. In other words, Ford's variable attenuator is responsive to an enable signal and adjusts the output signal level by adjusting the attenuation amount produced by the variable attenuator. Ford further discloses that a wavelength-multiplexed signal is demultiplexed into individual wavelength signals and fed into respective individual variable attenuators (Figure 4), thus meeting Appellant's claim to "a variable attenuator assigned to the optical signal component." Putting together the fact that Appellant concedes and Ford teaches adjusting for a drop or disconnection of a signal and further that Ford clearly teaches adjusting an "attenuation amount of a variable attenuator assigned to the optical signal component to a predetermined



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value” when a drop or disconnection occurs, it becomes apparent that Ford meets the limitations of the claimed invention.

Next, the Appellant argues against an assertion the examiner made in an interview by providing an analogy. However, the Appellant’s analogy is fundamentally flawed on many levels. First, the mathematical relationship on which the Appellant’s analogy depends,  $V=IR$ , is directed towards electrical components and the signals which can be measured from an electrical circuit. However, Ford’s invention is directed to an optical system where voltage, current, and resistance are not relevant. Second, the one factor that does matter in an optical system is the power of the optical signal, which the Appellant’s equation cannot be used to determine. Optical signals and the measurement of optical power is governed by a completely different set of equations than electrical signals and their measurements due mainly to the difference between photons and electrons. Finally, the Appellant’s analogy contradicts itself in that the applicant first states that a signal is dropped or disconnected, but then argues that for an output level to be maintained attenuation must change. However, if, as noted by the Appellant and disclosed by Ford an optical signal is dropped or disconnected, an input signal ceases to exist. Therefore, there being no input signal, holding a signal level, and thus an attenuation level to an existing value does not require any adjustment to the attenuation of the attenuator. Rather, the attenuator simply holds at whatever attenuation amount it is currently is set for upon a drop or disconnection of a signal. In fact even if the Appellant’s analogy held, which it clearly does not, a drop or disconnection would mean that  $V=0=IR$ , since  $I=0$  being that there is no input signal. There being no fluctuation in current, e.g.,  $I=0$ , the setting of  $R$  would not matter since anything multiplied by zero equals zero. Regardless, Ford teaches that the attenuation level, e.g.  $R$  in

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Appellant's analogy, would be held at the existing value to which it was set at the instant a disconnect or drop of the signal occurred.

Next, the applicant argues that by definition Ford discloses the opposite of attenuating by a predetermined value amount in that Ford's maintaining of a signal level will not reduce the amplitude of the signal. However, it bears repeating that without an input signal the amount of attenuation does not matter. Furthermore, Appellant's definition is again directed to an electrical component, which is governed by fundamentally different properties than an optical attenuator. Regardless, the examiner submits that the variable attenuator of Ford does provide a reduction in the amplitude of an input signal, even though an input signal may not exist, albeit at a constant level, e.g., "maintaining a signal level."

Finally, the Appellant argues that Ford fails to specifically teach setting an "attenuation amount" of a WDM component to a "predetermined value" when one of the signal components is "disconnected." However, as noted above, the opposite is true in that Ford teaches either setting the signal level output, and therefore the attenuation level, of a variable optical attenuator to a predetermined value, or setting the signal level output, and therefore the attenuation level, of a variable optical attenuator so as to maintain a signal level output. Regardless, each of these levels is predetermined in that it has been decided beforehand how the variable attenuator would respond to a dropped or disconnected signal.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,




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